



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/542,019

07/11/2005

Bernd Papenfuhs

KURARAY-8

8194

24997 7590 06/27/2008
MILLEN, WHITE, ZELANO & BRANIGAN, PC
2200 CLARENDON BLVD
SUITE 1400
ARLINGTON, VA 22201

EXAMINER

BERNSHTEYN, MICHAEL

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

06/27/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/542,019	Applicant(s) PAPENFUHS ET AL.	
	Examiner MICHAEL M. BERNSHTEYN	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12 is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-22 is/are rejected.
- 7) ☒ Claim(s) 5 and 8-12 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07/11/2005</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

1. Claims 5 and 8-12 are objected to because of the following informalities:

Claim 5 recites "On0umber" instead of the word "number".

Claims 8-10 recite "compound (5)" instead of "compound of formula (5)", and claims 11 and 12 recite "compound (6)" instead of "compound of formula (6)".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 20 and 22 provides for the use of a film and a polyvinylacetal, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 20 and 22 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Art Unit: 1796

3. Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 16 recites that "...less than 10.0 wt% of its total content is esterified and non-esterified in relation to the total weight of polyvinylacetal." It is not clear, how much is the percentage of esterified polyvinylacetal? Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1796

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

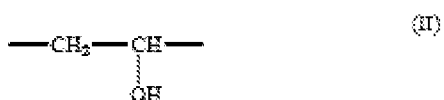
4. Claims 1-11 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Fuss et al. (U. S. Patent 6,808,858).

With regard to the limitation of instant claims 1-11 and 15, Fuss discloses a process for preparation of light-sensitive composition containing: (i) at least one diazonium polycondensation product or at least one system that can be radically polymerized and consists of photoinitiators and unsaturated compounds; (ii) at least one binding agent and optionally one or more exposure indicators, one or

Art Unit: 1796

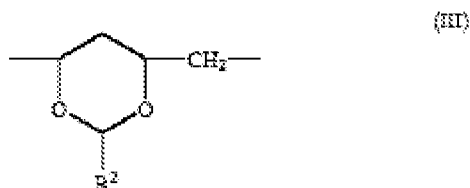
more dyes for increasing the image contrast and one or more acids for stabilizing the light-sensitive composition which is characterized in that the binding agent essentially consists of units (A, B, C, D) (abstract).

The component B being present in an amount of from 0.1 to 60 mol %, preferably from 20 to 55 mol %, and corresponding to the formula



This group of monomers is readable in applicant's claims as being monomer a).

The component C being present in an amount of from 10 to 80 mol %, preferably from 25 to 65 mol %, and corresponding to the formula

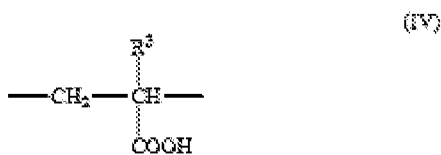


in which R^2 is a hydrogen atom, an alkyl radical having from 1 to 10 carbon atoms which may be unsubstituted or substituted with at least one carboxyl group, sulfonic acid group, hydroxyl group or at least one halogen atom, preferably a methyl, ethyl or propyl group, or an aryl group which may be unsubstituted or substituted with at least one alkyl group, carboxyl group, sulfonic acid group, hydroxyl group or at least one halogen atom, it being possible for this

Art Unit: 1796

unit to be present several times with different radicals R^2 independently of one another. This group of monomers is readable in applicant's claims as being monomer b).

The component D being present in an amount of from 1 to 20 mol %, preferably from 2 to 8 mol %, and corresponding to the formula



in which R^3 is a hydrogen atom or alkyl radical having 1 to 10 carbon atoms, which may be unsubstituted or substituted by a carboxyl group, a^3 preferably being a hydrogen atom, a methyl group or $\text{---CH}_2\text{COOH}$ group (col. 3, line 46 through col. 4, line 21). This group of monomers is readable in applicant's claims as being monomer d)

Therefore, the first essential component is a polyvinyl alcohol, which contains a carboxyl group bonded directly to the main chain and some of whose OH groups are acetalated. Copolymers of vinyl alcohol, a vinyl ester and an olefinically unsaturated carboxylic acid serve as starting material (col. 4, lines 40-46). The synthesis starting from acetaldehyde, propionaldehyde and butyraldehyde or acetals (this group of monomers is readable in applicant's claims as being compound (B)), thereof with lower alcohols $R^4\text{OH}$ is particularly preferred (col. 4, lines 63-65). The preparation of the acetal polymers can be carried out by known processes in the presence of catalytic amounts of acid.

Art Unit: 1796

Preferred acids are hydrochloric acid, phosphoric acid, or organic sulfonic acids (col. 5, lines 5-9).

With regard to the limitation of instant claim 17, Fuss discloses that the composition may furthermore contain a plasticizer. Preferred plasticizers include dibutyl phthalate, triaryl phosphate and dioctyl phthalate (col. 7, lines 25-27).

With regard to the limitation of instant claim 21, Fuss discloses that the subsequently dried substrates are coated with the photosensitive compositions. The polymers suitable for the top layer include polyvinyl alcohol, polyvinyl alcohol/polyvinyl acetate copolymers, etc. (col. 7, lines 49-61).

5. Claims 13, 14, 18-20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuss et al. in view of D'Alelio (U. S. Patent 2,332,889).

The disclosure of Fuss's reference residing in § 4 is incorporated herein by reference.

With regard to the limitation of instant claims 13, 14 and 18, Fuss does not disclose that the thermal crosslinking is carried out in an extruder, a kneading unit or another heatable unit, and the molding compound containing a polyvinyl acetal.

D'Alelio discloses a synthetic composition comprising hydrolyzed, acetalized, and/or ketalized copolymers of vinyl esters and organic nitriles (abstract). The molded compositions may be molded, extruded or injected at elevated temperatures, e.g., 125⁰ to 225°C and at suitable pressures in compression molding (page 8, right column, lines 9-15).

Art Unit: 1796

With regard to the limitation of instant claims 19-20 and 22, Fuss does not disclose that the composition can be used in a film and laminated safety glasses

D'Alelio discloses a synthetic composition comprising hydrolyzed, acetalized, and/or ketalized copolymers of vinyl esters and organic nitriles (abstract). These materials have .valuable characteristics properties that make them especially suitable for use in molding, laminating, coating and adhesive applications, and for other purposes (page 1, left column, lines 1-6). They can be used as electrically insulating materials, and also they may be used in the production of so-called "safety glass," wherein superimposed layers of glass are firmly united with a binder comprising one or more of these synthetic composition (page 8, right column, line 75 through page 9, left column, line 7).

Both references are analogous art and belong to the same field of endeavor concerning carboxyl group-containing acetal polymer compositions, and using the final polymers for different applications.

Therefore it would have been obvious to one having ordinary skill in the art when the invention was made to obtain the polymer composition of carboxyl group-containing acetal polymers as taught by Fuss using molding, extruding or injecting at elevated temperatures as taught by D'Alelio in order to obtain molding compounds which can be used to provide a wide variety of industrial products intended for use in areas of laminating, coating and adhesive applications, wood flour, paper, cloth, etc. (US'899, page 8, left column, line 60 through page 8, right column, line 35), because such compositions have good adhesive properties and

Art Unit: 1796

excellent resistance to heat, water and organic solvents, and thus to arrive the subject matter of instant claims 13, 14, 18-20 and 22.

Allowable Subject Matter

6. Claim 12 is allowed.

The following is a statement of reasons for the indication of allowable subject matter: The closest prior art Fuss (U. S. Patent 6,808,858) does not disclose or fairly suggests the weight ratio of the compound of formulas (5) and (6) in the method for the manufacture of crosslinked polyvinylacetals.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL M. BERNSHTEYN whose telephone number is (571)272-2411. The examiner can normally be reached on M-Th 8-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1796

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael M. Bernshteyn/
Examiner, Art Unit 1796

/M. M. B./
Examiner, Art Unit 1796

/Randy Gulakowski/
Supervisory Patent Examiner, Art Unit 1796